NOTES FROM PACIFIC COAST OBSERVATORIES.

Note on the Radial Velocities of Six Nebulæ in the Megellanic Clouds.

The resources of the D. O. Mills Expedition to the southern hemisphere have in recent months been applied almost exclusively to the measurement of velocities of approach and recession of the nebulæ whose spectra contain isolated bright lines.

We have recently observed the one planetary nebula known to exist in the Smaller Magellanic Cloud. The mean of three observed radial velocities is about 160^{km} per second, recession. This high velocity would not in itself be surprising, for two or three planetary nebulæ in the northern sky have been found to possess still higher radial velocities.

Of the nineteen bright-line nebulæ known to exist in the Greater Magellanic Cloud, we have observed five. All of these have yielded radial velocities lying between the limits 250^{km} and 300^{km}, recession. These results are indeed surprising. It is scarcely possible to doubt that the one bright-line nebula cataloged and observed in the Lesser Magellanic Cloud, and the nineteen nebulæ cataloged, and the five observed, in the Greater Magellanic Cloud, are really within the structure of these Clouds, respectively. There are no other known bright-line nebulæ surrounding or at all near these Clouds. One must go many degrees toward the Milky Way before coming to other bright-line nebulæ.

A consideration of the high and nearly equal velocities obtained for the five nebulæ in the Greater Cloud suggests either that these nebulæ are to some degree associated with each other, traveling thru space certainly with nearly equal recessional velocities and possibly along nearly parallel lines, or that

the nebulæ and the general structure of the Magellanic Cloud are traveling together. In particular, there is the question whether the Greater Cloud as a whole is receding from the solar system with a speed approximately equal to the average observed speed of the five nebulæ. Radial velocity observations of as many and as faint stars in the Greater Magellanic Cloud as available observing resources will permit are extremely desirable, and we hope to take up a limited program of observations of this kind, probably next year.

It has been suggested now and then that our stellar system if viewed from an exceedingly great distance might appear to be a spiral nebula, and conversely that the spiral nebulæ if observed close at hand might be seen as isolated stellar systems. The high apparent velocities of the Magellanic Clouds, especially of the Greater Cloud, are not out of harmony with the idea that they have little or no connection with our general stellar system. This condition might incline one to speculate upon the Magellanic Clouds as bearing some relation to spiral nebulæ, chiefly in view of the high average velocities which SLIPHER has recently found for many spirals.

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SANTIAGO, CHILE, January, 1915.

NOTE ON COMET *a* 1915 (MELLISH).

The first comet of the present year was discovered by Mr. JOHN E. MELLISH, of Cottage Grove, Wisconsin, on February 10th. The telegram from the Harvard College Observatory announcing the discovery was received here on Thursday, February 11th, but clouds prevented observations until the following night. Measures were secured on February 12th and 13th (Mount Hamilton time), and then storms and, later, moonlight, made further measures impossible until February 26th.

As seen with the 12-inch telescope on February 12th, the comet appeared as a small, slightly oval object, about as bright as a tenth-magnitude star. The nucleus was well defined, tho not stellar, and measures of position were comparatively easy to make. By February 26th it had become perceptibly brighter, and was apparently a little larger.

On the basis of my first two measures and one by H. C. WILSON, of Carleton College Observatory, a preliminary orbit